

Russell Grimwade's appreciation of glass

A matter of art, science and industry

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Glass paperweights often sit uncomfortably in the representational and conceptual schemata of the typical art museum. And at first sight, this is true of the 29 glass paperweights in the Russell and Mab Grimwade 'Miegunyah' Collection at the Ian Potter Museum of Art, University of Melbourne.¹ As objects, decorative paperweights are a fusion of artistry, chemical science and technical expertise. The result is an aesthetic form that also serves a practical function. The Miegunyah paperweights appear disparate from the bulk of the collection, which comprises Australian paintings, prints, photographs and about 1,000 rare books.² The paperweights are both haptic and optic: intended to be handled and observed from multiple perspectives. Their subjects are both animated and magnified by the absorption, reflection and refraction of light. Moreover, these paperweights are European objects incongruous with the Miegunyah Collection's overarching Australian theme. These fanciful bibelots might appear somewhat frivolous in a collection that was established with an aim to 'document the exploration, settlement and development of Australia as a nation, and the growth of Melbourne as a city'.³ They do not pertain to perceptions of the external

world but draw our gaze inwards: to an enchanted world encased in glass. Nevertheless, they are important inclusions; the Miegunyah paperweights tell us about Sir Russell Grimwade's personal and professional appreciation of glass, and about its significance as a unique material that has shaped the modern world in innumerable ways.

Wilfrid Russell Grimwade (1879–1955) was a scientist, industrialist and philanthropist. Known for his observant eye and inquiring mind, he was a proponent of scientific rationale, which he universally applied in business and in life, tempered only by an aesthetic appreciation of art and nature.⁴ He studied science at the University of Melbourne before joining the family pharmaceutical business, Felton Grimwade and Company, in 1903. The gifts that he and his wife, Mabel, eventually bequeathed to the university—the combined Miegunyah Bequests of collections, funds and indeed their home in Toorak—remain among the university's most substantial and significant acts of benefaction.⁵

While the inclusion of these paperweights may appear odd, their situation in the Miegunyah Collection, I would argue, is both rational and appropriate. Grimwade had a 'strong historical sense';⁶ as his

biographer John Poynter recounts, Grimwade 'believed in museums because he believed the past to be important'.⁷ It is only when we consider Grimwade's professional association with glass—the pivotal role played by Felton Grimwade and Company in establishing, developing and eventually dominating Australian glass production—that the paperweights' significance becomes clear. Though European in origin, these glass paperweights are perfectly placed in this collection of Australianiana because they signify the traditional method of Australian glassmaking from 1812 until its complete mechanisation in 1927—a process in which Russell Grimwade played an instrumental role.

But Grimwade's appreciation of glass encompasses more than just this facet of industry. A photograph taken in about 1978 suggests that Grimwade considered these paperweights to be part of a larger history of glass in Australia and internationally. It shows a cabinet in the sitting room of his and Mab's house, Miegunyah, in which are displayed 13 paperweights together with 18th- and 19th-century English glass decanters, bottles, and wine and jelly glasses.⁸ These types of glassware were highly desirable in colonial Australia and were imported regularly throughout the 19th century.⁹

John Kilner & Co. / Kilner Brothers Ltd (Yorkshire, 1842–1937), Paperweight with air-bubble inclusions, late 19th or early 20th century, green glass, 8.1 × 7.8 cm (diameter). 1973.0593, gift of the Russell and Mab Grimwade Bequest 1973, University of Melbourne Art Collection.

Further to this, Grimwade's interest in history concentrated on social change,¹⁰ and no medium has shaped the modern world more than glass. For glass historians Alan Macfarlane and Gerry Martin, 'glass was manifestly one of the very most important materials in the development of science and technology'.¹¹ Several objects and photographs from the collection underscore Grimwade's understanding of glass as a significant agent of change. In a sense, the Miegunyah Collection's paperweights represent a prehistory of Australian glassmaking, without which the Felton Grimwade enterprises could not have existed.

Glass manufacturing in Australia

Glass production in 19th-century Australia was a difficult venture, impeded by a lack of skilled labour and raw materials. The history of the industry was fraught with failure until Felton Grimwade and Company established the Melbourne Glass Bottle Works in 1872.¹²

Felton Grimwade, founded in 1867 by Alfred Felton (1831–1904) and Frederick Sheppard Grimwade (1840–1910), Russell Grimwade's father, was primarily a firm of wholesale druggists and manufacturing chemists. The business



was hampered by the irregular and costly supply of imported bottles, prompting it to become self-sufficient in this regard. But this venture was not without difficulty, as Felton bemoaned: 'the skilled workforce imported were found to be mutinous and intemperate to a fearful degree'.¹³ Nor was it immediately profitable; the Melbourne Glass Bottle Works would not break even for 12 years. But competent management, a prudent re-investment of profits, and the restraint shown by both Felton and Grimwade in not drawing a salary for 30 years, saw the glass business not only stabilise but expand.¹⁴ In 1904 and 1907, the company opened further glass operations in Sydney and Adelaide respectively, and amalgamated its new enterprise under the name Australian Glass Manufacturers.

Though the glass company was largely the domain of Alfred Felton (and later, of Russell's older brother Harold), Russell Grimwade would play a significant role in its development, as interim director from 1913 to 1921, ushering in a new age of mechanisation. Producing hand-blown glass bottles in large quantities required an orchestrated arrangement of several skilled and unskilled labourers: a glass-gatherer, a glass-blower, and a 'necker', all interspersed

by 'carrying boys'. In business, Russell was 'a forceful supporter of modernisation' and under his watch the firm took several steps to increase production and reduce labour costs. In 1916, the company purchased American machines to produce both wide- and narrow-necked bottles, which required only glass-gatherers to feed them. With compressed air replacing corporeal breath, the once valued expertise of skilled glass-blowers became obsolete. Further, these new machines were so efficient that the glass-feeders could not keep pace, making further steps toward automation necessary. Hence in 1918 Felton Grimwade and Company purchased the Australian rights to the Fairmont Feeder, which 'delivered adequately-shaped globs of glass ... to compressed-air bottle machines at great speed', thereby eliminating the need for manual glass-feeders. Shortly thereafter, 'carrying boys' were likewise replaced: 'automatic takers-out put the bottles on the conveyor and automatic loaders picked up bottles with pivoted fingers'.¹⁵ In just a few years, glassmaking in Australia was transformed from an artisanal craft into a modern, mechanised, engineering industry.

The Miegunyah Collection contains four green bottle-glass weights (of which two are doorstops)

produced by the John Kilner Glass Company in Yorkshire in the late 19th or early 20th century (see example on page 39), which are particularly relevant to Felton Grimwade's activity as glass manufacturers. These weights, commonly called 'dumps', were produced from leftover bottle glass that would otherwise be disposed of at the end of the working day. Three of them feature a simple but effective pattern of controlled bubbles. Rotating the weight results in pleasing animation: a mesmerising swirl of bubbles that rises from base to tip. The maker achieved this effect by piercing the molten glass with a many-pronged tool and swiftly trapping the pockets of air behind an additional layer of glass. The fourth Kilner weight contains a six-petalled sulphide flower with a large air-bubble pistil, emerging from a sulphide plant-pot. The sulphide technique lends a silvered appearance to the lampwork (made using a hand-held torch lamp) and is created by adding a fine layer of chalk dust. Paperweight connoisseurs have generally dismissed these green bottle weights as common and crude, but for Grimwade they possibly evoked a touch of pathos, as their production ceased with the introduction of machine-made bottles.¹⁶

Unknown maker (Murano, Venice), Miniature *millefiori* paperweight, early 20th century, coloured and uncoloured glass, 4.2 × 5.7 cm (diameter). 1973.0584, gift of the Russell and Mab Grimwade Bequest 1973, University of Melbourne Art Collection.

Craftsmanship

Intriguingly, Grimwade had a personal appreciation of craftsmanship that could be construed as contradicting his 'special flair' for technical innovation in business.¹⁷ By 1927, the production of glass bottles by Australian Glass Manufacturers had become wholly automated. Concurrent with this development, Russell and Mab Grimwade spent 11 months travelling in Egypt, Britain and Europe, including Venice, where Russell explored the Murano glass industry.¹⁸ Traditional glassmaking was a fascinating spectacle, and Grimwade was reportedly in awe of both the artistry and skill of the Venetian craftsmen, but he did not suggest any changes to Australian Glass Manufacturers upon his return.¹⁹ While it is not known when Grimwade began collecting glass paperweights, it is likely that many of the *millefiori* weights in the collection were acquired during this trip.

Grimwade strongly advocated craftsmanship. As a skilled woodworker himself, he wrote and spoke on the subject on several occasions. Craftsmanship in Grimwade's terms involved not just 'a complete and full knowledge of the medium' and associated tools but, more significantly, a degree of creative conception, a mental rather

than manual foundation.²⁰ That said, the hand of the artist was an essential part of the process. For Grimwade, it was 'the indiscernible imperfections of the hand-made piece which gave it artistry and value'.²¹ Notably, several of the paperweights he collected exhibit substantial swirling—an effect produced by the revolving motion of the glass-shaping

process. Furthermore, as Australian Glass Manufacturers expanded to encompass new material technologies such as plastic containers and corrugated cartons, and diversified into engineering, producing its own moulds, glassmaking machinery and engineering parts, Grimwade's advocacy of craftsmanship became more pronounced. Speaking at a



Baccarat (France, est. 1764), Paperweight with blue and red clematis buds, 1850, coloured and uncoloured glass, 5.5 × 7.4 cm (diameter). 1973.0595, gift of the Russell and Mab Grimwade Bequest 1973, University of Melbourne Art Collection.



woodwork exhibition in 1951, he encouraged a return to craftsmanship, which he hoped would counteract 'the ogre of mass production'.²²

Grimwade's appreciation of glass-blowing as an artisanal craft is evident from the enthusiastic account of the process given in his 1947 book *Flinders Lane: Recollections of Alfred*

Felton. He recalls with dramatic delight his boyhood experience of a demonstration at the Melbourne Glass Bottle Works. In Grimwade's description, the craftsmen appear as a special breed of man, possessing god-like skill. The master glass-gatherer, he writes, braves the aperture of the glass furnace, which:

breathes red hot anger and defiance to all who approach save the gatherer, the master craftsman whose knowledge of its moods pricks the bubble of its terror and who strokes its burning entrails with an iron pipe until the skill which is his tells him he has gathered just the right amount of 'metal' that will fill the mould.²³

Likewise, the master glass-blower 'understands how to defy the laws of gravity'. Most importantly, Grimwade emphasises the unique quality of each hand-crafted bottle: it is not produced, but birthed. The 'necker', Grimwade writes, 'sits on his throne and receives the tributes of his subjects in the form of glowing bottles on pipes of steel. He is the midwife who severs the vitreous umbilicus'. Finally, this noble act of creation is treated with reverence and care: 'the child is rocked' in a cradle of curved steel, and 'a nurse arrives in the form of an apprentice boy with a punt as a perambulator'.²⁴ An awe of both mastery and medium shines through Grimwade's text.

The Miegunyah Collection of paperweights is a testament to Grimwade's taste and knowledge, containing fine examples from the most prestigious of French

Baccarat (France, est. 1764), Paperweight with sand-dune moss ground, c. 1850, uncoloured glass with mineral deposits, 5.5 × 7.0 cm (diameter). 1973.0609, gift of the Russell and Mab Grimwade Bequest 1973, University of Melbourne Art Collection.



glassmakers—Baccarat, St Louis, and Clichy—as well as English, Venetian and Bohemian weights. Most contain floral subjects, both abstract and representational, produced through the techniques of millefiori (thousand flowers) or lampwork.

Millefiori canes are constructed either by using moulds or by fusing a combination of coloured glass rods to create a variety of abstract patterns, as well as words, dates, shapes, silhouettes and images of people, flowers, fruits and animals. These cylindrical formations are then stretched into pencil-thin rods in which the pattern is maintained throughout its length. Increasingly complex patterns can be created by combining several of these patterned canes. They can be arranged sparsely as in the delicate central flower wreathed by a garland in the 1850 Clichy miniature paperweight,²⁵ or *en masse* to create a vibrant floral carpet ground (see page 41).

Three-dimensional subjects such as animals, flowers and fruit are built by combining individual components—leaves, petals, stems—using a hand-held torch lamp. Once complete, these lampwork subjects are stabilised in a glob of glass and then the weight is constructed. While the Miegunyah Collection contains common examples such as

the Baccarat pansy weight (c. 1850),²⁶ it also contains rare and valuable weights like the Baccarat clematis buds of 1850 (opposite). This weight features five flower-buds (which are more highly prized by collectors than are open-flower arrangements). Further, the Miegunyah weight is rare in that it features both red and blue buds, whereas most Baccarat examples are constructed in a single colour.²⁷ Another example of superb lampwork is the St Louis mixed-fruit weight (1850), which comprises two rosy pears, a yellow pear and three cherries, all held in a *latticino* basket (from the Italian *latte*, for milk, and meaning glassware containing milk-white canes or threads).

One of the most intriguing weights in the collection is the sand-dune moss ground by Baccarat (c. 1850) (above), which contains a mineral deposit suggestive of a miniature craggy landscape. The simplicity of its design—the metallic glint of moulded peaks sprinkled with verdant moss—stands in contrast with the elaborate decoration of the millefiori paperweights.

Also of note are several showy Bohemian weights, which feature pinwheel petunias brought to life by a series of irregular facets that reflect and refract light. Other techniques and subjects are represented in

singular form: a painted porcelain inclusion depicting the profile bust of Napoleon; a pinchbeck gilt-metallic relief base illustrating a domestic scene; even a blown-glass snowglobe incorporating a Chinese scene mounted on a marble base. As a whole, the collection provides an overview of paperweight design, technique and production in just a few examples.

The significance of glass

In *Glass: A world history*, Macfarlane and Martin emphasise the significance of glass as a material:

Most of us hardly give glass a thought, but imagine waking in a world where glass has been stripped away or uninvented. All glass utensils have vanished, including those now made of similar substances such as plastics which would not have existed without glass. All objects, technologies and ideas that owe their existence to glass have gone.²⁸

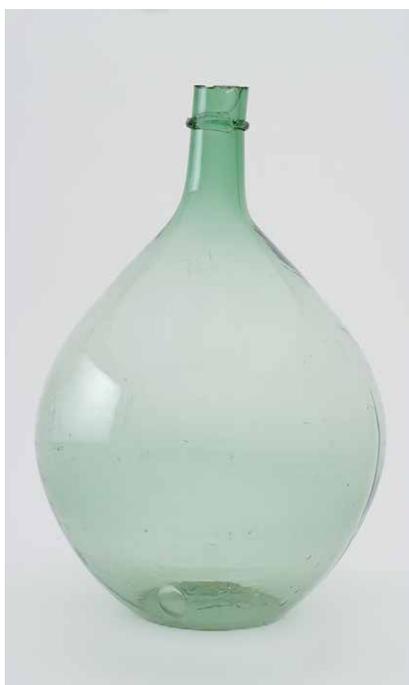
There would be no clocks, lightbulbs, spectacles, windows, televisions, cars, trains or airplanes. Moreover, without microscopes and telescopes, our understanding of the natural world would be rudimentary: we

Unknown maker (probably England), Chemist's bottle, 19th or 20th century, glass, 16.5 × 7.5 cm (diameter). 1973.0610, gift of the Russell and Mab Grimwade Bequest 1973, University of Melbourne Art Collection.

would not see the material structure of micro-organisms, or understand the vast expanse of the universe and our place in it. In short, without glass, Macfarlane asserts, 'we could not have had an industrial or scientific revolution'.²⁹

Two technical developments in glassmaking underpin this knowledge revolution, both of which Macfarlane and Martin locate in paperweight production. The most significant innovation was the development of *cristallo*, a transparent and colourless glass, by Venetian glassmakers in the 15th century. Second to this was the rediscovery of the method of producing ancient Roman mosaic glass (or millefiori canes). In combination, these two advances encouraged glassmakers to reach new artistic heights. The resultant beauty of glass fuelled a desire for its possession and for knowledge of its production, propelling glass into Europe-wide usage by the 16th century.³⁰ It is for these reasons that glass historians consider paperweights the culmination of thousands of years of artistry and technological innovation.³¹

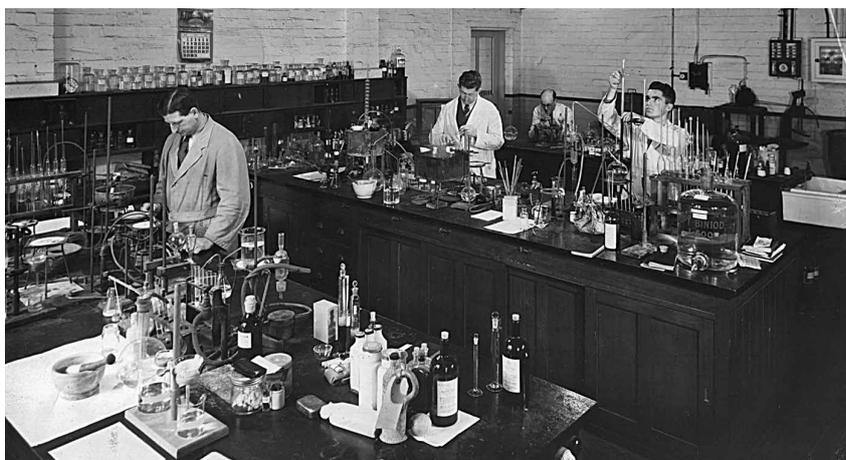
As a scientist, Grimwade would have been aware of the significance of glass as a medium of change. His youthful experiments in constructing a home-made X-ray



machine required the use of a glass vacuum tube. Similarly, his enthusiasm for photography involved the use of lenses, mirrors and glass printing-plates. His photographs, too, document the use of glass: he depicted lighthouses, observatories and astronomy expeditions. Most importantly, glass is essential for many chemical processes, because it is inert, impermeable and resistant to contamination.³² A 1935 photograph in Grimwade's papers, titled *Analytical laboratory, Sydney*

(opposite, above), shows the vast array of scientific glassware indispensable to laboratory experiments. Indeed, the study of the physical and chemical properties of air and other gases could not have been achieved without glass.³³ Specialty glassware was so important that chemists often did double duty as glass-blowers; a chemist's bottle in Grimwade's collection (left) acknowledges this history.³⁴ Ultimately, Grimwade's lifelong interest in industrial gases, and his signature achievement—the pioneering of liquid air—was dependent upon the availability of glass.

The combined Miegunyah Bequests of Sir Russell and Lady Mab Grimwade were, as Jaynie Anderson emphasises, 'expressly targeted to fulfil a set of interconnected beliefs about art, science and education'.³⁵ What makes the Miegunyah paperweights so intriguing is that they embody this aim. As objects, they represent not only the pinnacle of glass artistry but also a significant material that has accelerated change in science and technology. But what makes these paperweights most important in the context of the Miegunyah Collection is that they are intimately emblematic of the collector himself, as a man of art, science and industry.



S.J. Hood, Sydney (photographer), *Analytical laboratory, Sydney, 1935*, photographic print, 15.0 × 20.0 cm. 2003.0003.00445, Sir Wilfrid Russell Grimwade and Lady Mabel Grimwade, University of Melbourne Archives.

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The Russell and Mab Grimwade 'Miegunyah' Collection is part of the University of Melbourne Art Collection, which is managed by the Ian Potter Museum of Art. Selected paperweights are on display in University House, together with the Ernst Matthaei Memorial Collection of Early Glass.³⁶

- 1 A full catalogue was published in 1997: Rachel Kent and Elizabeth Aders, *Art, industry and science: The Grimwade legacy: Works of art from the Russell and Mab Grimwade Bequest*, University of Melbourne Museum of Art, 1997.
- 2 This number is cited on 'Sir Russell and Lady Grimwade Collection', University of Melbourne Library, library.unimelb.edu.au/collections/special-collections/rare-books/australiana/grim, viewed 23 April 2018. The artworks are held in the Ian Potter Museum of Art, the personal and business papers are held in University of Melbourne Archives (1988.0129 and 1975.0072 Drug Houses of Australia Ltd; numerous holdings Grimwade family members), the rare books are in Special Collections in the Baillieu Library, and some pharmaceutical items are held in the Medical History Museum. See also Henry Skerritt, 'Experimental gentlemen: Making the past present in the Sir Russell and Lady Mab Grimwade Collection', *University of Melbourne Collections*, issue 10, June 2012, pp. 15–23.
- 3 Ian Potter Museum of Art, 'The Russell and Mab Grimwade "Miegunyah" Collection', University of Melbourne, www.art-museum.unimelb.edu.au/collection/named-collections/namecol/1, viewed 10 December 2017.
- 4 John Poynter, *Russell Grimwade*, Melbourne University Press at the Miegunyah Press, 1967, p. 3.
- 5 John Poynter and Benjamin Thomas, *Miegunyah: The bequests of Russell and Mab Grimwade*, Melbourne: Miegunyah Press, 2015, p. v.
- 6 Poynter, *Russell Grimwade*, p. 49.
- 7 Poynter and Thomas, *Miegunyah*, p. 64.
- 8 Poynter and Thomas, *Miegunyah*, p. 25.
- 9 Marjorie Graham, *Australian glass of the 19th and 20th century*, Sydney: David Ell Press, 1981, pp. 8–9.
- 10 Poynter, *Russell Grimwade*, p. 49.
- 11 Alan Macfarlane and Gerry Martin, *Glass: A world history*, University of Chicago Press, 2002, p. 83.
- 12 See Malcolm Harrop, 'The origins of glassmaking in Australia', in *Good things came from glass: The history of glass making in Australia, 1812–1987*, Melbourne University Publishing, 2008, pp. 1–9.
- 13 Alfred Felton, quoted in Harrop, *Good things came from glass*, p. 14.
- 14 Poynter, *Russell Grimwade*, p. 24.
- 15 Historical details from Poynter, *Russell Grimwade*, p. 119.
- 16 Betty Burrows, 'Origin of the bottle-glass weights', *Delaware Valley Paperweight Collectors Association*, vol. 11, no. 2, March 2004, pp. 3, 9, dvpaperweights.org/newsletters/pdf/dvpca_march2004newsltr.pdf.
- 17 Poynter, *Russell Grimwade*, p. 77.
- 18 Poynter and Thomas, *Miegunyah*, p. 30.
- 19 Poynter, *Russell Grimwade*, p. 158.
- 20 Grimwade, quoted in Poynter, *Russell Grimwade*, p. 297.
- 21 Grimwade, quoted in Poynter, *Russell Grimwade*, p. 298.
- 22 Grimwade, quoted in Poynter, *Russell Grimwade*, p. 297.
- 23 Russell Grimwade, *Flinders Lane: Recollections of Alfred Felton*, Melbourne University Press, 1947, pp. 35–7.
- 24 Grimwade, *Flinders Lane*, pp. 35–7. A punty is a long iron rod used to handle hot glass.
- 25 Clichy (France, est. 1837), Miniature paperweight with central millefiori flower encircled by a floral garland, c. 1850, coloured and uncoloured glass, 3.6 × 4.6 cm (diameter). 1973.0582, gift of the Russell and Mab Grimwade Bequest 1973, University of Melbourne Art Collection.
- 26 Baccarat (France, est. 1764), Pansy paperweight, c. 1850, coloured and uncoloured glass, 4.8 × 6.5 cm (diameter). 1973.0597, gift of the Russell and Mab Grimwade Bequest 1973, University of Melbourne Art Collection.
- 27 Laurence H. Selman, 'Chapter IV: 3. Special types of paperweights', in *The art of the paperweight*, Santa Cruz, California: Paperweight Press, 1988, www.theglassgallery.com/blog/book/the-art-of-the-paperweight/chapter-4/3.
- 28 Macfarlane and Martin, *Glass: A world history*, p. 1.
- 29 Alan Macfarlane, *The importance of glass in understanding our modern world* (video), University of Cambridge Repository, 2004, www.repository.cam.ac.uk/handle/1810/611, viewed 15 November 2017.
- 30 Macfarlane and Martin, *Glass: A world history*, p. 23.
- 31 Selman, *The art of the paperweight*.
- 32 Macfarlane and Martin, *Glass: A world history*, p. 44.
- 33 Macfarlane and Martin, *Glass: A world history*, p. 46.
- 34 Simon Hadlington, 'A vital blow for chemistry', *Chemistry World*, August 2009, p. 47.
- 35 Jaynie Anderson, 'The distinctive nature of Melbourne philanthropy', in Poynter and Thomas, *Miegunyah*, p. xx.
- 36 On the Matthaei Collection, which also combines the aesthetic with the scientific (through connections with the study of botany), see Peter M. Attiwil, 'The Ernst Matthaei Memorial Collection of Early Glass', *University of Melbourne Collections*, issue 8, June 2011, pp. 37–46.